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Administrators' Attitudes toward Using Computer Technology in School Administration

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ABSTRACT: *This study aimed to determine the level of school administrators' attitude towards computer technology. It was performed with 100 school administratorswho work in schools in the province of Diyarbakır, in 2012-2013 school year. Data of the study were collected through School Administrators' Attitudes towards Computer Technology Scale (SAACT). The Cronbach Alpha coefficient of the scale was .85. According to the results, school administrators' attitude towards the use of computer technology was at medium level and significantly different in terms of their tasks in school administration and their school-type. Vocational-Technical high school administrators had the most positive attitude. It was followed by elementary and general high school administrators. There was no significant difference in the attitude of school administrators between genders considering the whole scale. However, it was concluded that female school administrators were more positive than the males in sub-dimension of the use of technology.*

Keywords: School Administrators, Computer technology, Attitude

1. INTRODUCTION

Technology is improving consistently. These technological improvements and innovations effect every aspects of our lives including education. In parallel with the developments in technology, many technological devices, especially the computers, get involved in the education process. These devices used in education give their place to new ones day by day due to the high speed of technological change. The integration of the technology has a place in education to keep up with times and to increase the motivation, school attendance and academic success of the student [1, 2]. Besides, the integration of technology in schools decreases the exhaustion of students, teachers and other personnel and enables more effective management facilities.

By taking into consideration the advantages of technology integration, in Turkey, The Ministry of National Education (MNE) has set up web-enabled Information Technology classes especially since the 1990s to generalize the technology use in primary education schools [3]. Along with the investments on educational technologies, a course named "Information Technologies" took its place in curriculum and the technology and computer use in schools was tried to be popularized by training teachers and administrators in-service. The MNE still continues its mission on this subject within some projects. The FATIH Project (Increasing Opportunities and Improvement of Technology Movement) has been announced in 2011 by MNE to increase the success of students by using technology and computers effectively in classrooms. The MNE has planned to distribute tablet computers to each student/teacher, to make available interactive boards and web platform in 570.000 classrooms and to give in-service training for the teachers for the next three years.

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Although the projects like FATIH, are implemented to increase the success in education, the feasibility of them is discussed by some research papers [4, 5]. According to these studies, teachers' lack of knowledge and skills in computers affects the success of these kind of projects. Inan and Lowther [6] also state that unfortunately, the teaching practices applied in classroom do not show a marked improvement despite the increased availability of technology in schools. To enhance the learning and teaching process, all staff in the school (teachers, administrators, students and other staff) need to have some responsibilities in integration of technology. Indeed, leadership is probably the most significant factor that affects the success of technology integration in schools [7]. Therefore, it is necessary for school administrators to lead and to model the technology use in schools. The administrators need to have some qualifications to enable efficient use of computer technology. Karslı [8] states that administrators need

- to understand basic concepts regarding computer and technology;
- to recognize the basic software and hardware;
- to know the qualifications required in deciding and evaluating the software and hardware;
- to be liberal about using computers in schools;
- to search and find source for computer purchase;
- to define the areas of usage regarding computers.

Byrom & Bingham [7] also notes that administrators should have the characteristics of vision, leading by example, teacher support, open dialogue and shared leadership to effectively integrate technology. However, supporting teachers and creating a shared vision for technology use are the primary roles of administrators [9].

There have been some studies which indicate that administrators' knowledge and support in computer use have a key role in supporting teachers who use computers as a tool in classrooms and in integrating the computers into the classrooms [10, 11, 12, 13, 14, and 15]. Kozloski [15] indicated that administrators should be a model for school personnel to ease the technology integration, provide teachers training opportunities for technology use and try to increase the computer and technology use by supporting it. Despite the significance of administrators' roles identified in many papers, Brockmeier, Sermon and Hope [16] have come to a conclusion that administrators have difficulty in understanding how to use educational technologies in learning and teaching process and in presenting the user, cooperative and facilitator roles that support the computer use.

Technology tools such as computers are useful for teachers and students as it enhances what they already do. The role of the administrators in technology and computer use seems crucial in enhancing the success of education. The understanding and the support of the administrators are required for a successful technology integration [12]. For this reason the behaviours of administrators about computer use are thought to effect the success of technology and computer use in schools. Attitude is at the centre of attempts to predict and explain social behaviour [17]. According to this, one's attitude toward something affects his behaviour. Administrators' behaviours on computer use are also affected by their attitudes. If they believe that technology and computer use is important to educate effectively, then they be willing to provide the necessary sources. For this reason, learning administrators' attitudes is thought to be significant for the effective use of computers in schools. The aim of this study is to identify school administrators' attitudes towards computer technology. There is limited number of studies in Turkey on this subject [18, 11]. In Turkey, there are some problems in providing educational technologies in schools and effective use of them. For this reason; this study, is thought to provide an insight for the studies of Ministry of Education. In this regard, this study is expected to lead to form content to which administrators need in programs for the implementation of technology. Within this framework, the research questions guided this study were;

1. What is the level of school administrators' attitudes toward computer technology?
2. Do school administrators' attitudes towards computer technology differ according to their tasks?
3. Do school administrators' attitudes towards computer technology vary according to their genders?
4. Do school administrators' attitudes toward computer technology vary according to their seniority?
5. Do school administrators' attitudes towards computer technology vary according to the type of school at which they work?

2. METHOD

In this study it was aimed to examine school administrators' attitudes towards computer technology and to compare their attitudes according to some variables as gender, seniority, role, and working place. The cross sectional survey design was used to examine participants'

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attitudes towards computer technology and to compare their attitudes in terms of some variables.

2.1. Participants

Participants of the study consisted of 100 school administrators, including 39 school principals and 61 deputy directors working in public schools in the city of Diyarbakır, Turkey in the academic year 2012-2013. The demographic data related to the participants is indicated in Table 1.

Table 1: Distribution of school administrators' task

Variables	**f**	**%**
Gender		
Female	43	43
Male	57	57
Role		
School Administration	39	39
Deputy Director	61	61
Seniority		
0-5 yrs.	9	9
6-10 yrs.	56	56
11-15 yrs.	11	11
Over 16 yrs.	24	24
Working Place		
Primary Education	75	75
General high school	14	14
Vocational-Technical high school	11	11
Total	**100**	**100**

As seen in Table 1, of 100 participants 57 of them were male and 43 of them were female administrators. 39 of school administrators participated in the study have been working as school principal and 61 participants were deputy directors. The great majority of the participants (54%) had 6-10 years of seniority, while only 9 of them had 0-5 years of seniority. The statistics indicated that the participants who have been working in primary schools (75 administrators) dominated the study.

2.2. Instrument

Data of the study were collected through *School Administrators' Attitudes towards Computer Technology* Scale (SAACT). SAACT scale was first developed by Akbaba-Altun [19]. The scale was used to determine school administrators' attitudes towards computer. The scale was prepared as Likert-type with five options, and consisted of 22 item (10 of them were negative 12 of them were positive). In the study, negative items were reverse coded after data collection in order to obtain coherence between items' score. The maximum score for the scale was 110while the minimum score was 22. The scale has five sub-scales namely, *technology use*, *interest in technology*, *technophobia*, *technology management* and *technology and development*. The Cronbach Alpha coefficients of the scale were .85 for the whole and .74, .83, .59, .74 and .78 for sub-scales respectively. These results showed that the scale was reliable.

2.3. Analysis of Data

In order to determine the administrators' computer use and their attitudes towards computer technology descriptive statistics (frequencies, percentages, means, and standard deviations), t-tests and One-Way ANOVA) tests were used. Prior to these analyses, the basic assumptions of this test were tested. In this respect, first, whether there was

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a normal distribution or not was tested, and as a result of the Kolmogorov-Smirnov test, it was seen that the distribution was normal (p>.05). In the study, the significance level was taken as 0.05

3. FINDINGS

In this part of the study, findings are respectively given and annotated in accordance with connected sub-problems.

The first concern of the study was to examine the administrators' attitudes towards computer technology in school administration. The results were shown in Table 2.

Table 2: School administrators' attitudes towards using computer technology in school administration

	N	Mean	SD
Whole Scale	100	77,70	9,66
Use of Technology	100	84,99	16,77
Interest of Technology	100	87,34	18,88
Technophobia	100	61,22	18,36
Management of Technology	100	62,71	12,62
Technological Development	100	92,25	16,62

The results indicated that the mean scores of administrators for the whole scale were at moderate level (see table 2). This finding indicates that administrators are not much interested in using technology in schools context. The scores for subscales supported this idea. The findings showed that administrators are afraid of using technology in school administration. The complex instructional technology may be seen as complicated by administrators. Thus they think that they are incompetent in management of technology.

The second aim of this study was to compare administrators 'attitudes towards using technology in school administration in terms of their roles in schools, genders, seniority and types of schools at which they work. The first analysis was conducted to compare their scores in SAACT in terms of their division of tasks as school principal and deputy principal. An independent samples t-tests were employed to compare their scores in whole scale and subscales (see Table 3).

Table 3: Comparison of School administrators' attitudes toward using computer technology in terms of position in school

	Position	*N*	*Mean*	*SD*	*DF*	*t*	*p*
The whole scale							
	School P.	39	75,92	10,30	98	1,260	,211
	Deputy P.	61	78,84	9,13			
Use of Technology							
	School P.	39	81,24	15,40	98	1,983	,050*
	Deputy P.	61	87,39	17,29			
Interest of Technology							
	School P.	39	85,29	19,67	98	,866	,389
	Deputy P.	61	88,65	18,40			
Technophobia							
	School P.	39	58,10	18,75	98	,554	,581
	Deputy P.	61	63,20	17,98			
Management of Technology							

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	School P.	39	63,18	12,09	98	,602	,549
	Deputy P.	61	62,40	13,03			
Technological Development							
	School P.	39	91,76	19,40	98	,231	,817
	Deputy P.	61	92,56	14,74			

The results showed that though deputy principals' total scores for SAACT were higher than the school principals, the division of roles do not change their attitudes towards using technology in school administration for the whole scale [$t_{(98)}$= 1,260; p>,05]. However, deputy principals had statistically significantly higher scores than school principals in the use of technology subscale [$t_{(98)}$= -1,983; p=,05]. Almost in all subscales deputy principals were found to have more positive attitudes towards using technology in educational settings than the school principals.

To examine the effect of gender on administrators' use of computer in school administration, t test was used. The results were shown in Table 4.

Table 4: Comparison of School administrators' attitudes toward using computer technology in terms of gender

	gender	*N*	*Mean*	*SD*	*DF*	*t*	*p*
The whole scale							
	Female	43	79,79	8,04	98	1,903	,060
	Male	57	76,12	10,52			
Use of Technology							
	Female	43	90,47	12,99	98	2,946	,004*
	Male	57	80,85	18,18			
Interest of Technology							
	Female	43	87,18	17,63	98	-,073	,942
	Male	57	87,46	19,92			
Technophobia							
	Female	43	63,19	15,53	98	,932	,354
	Male	57	59,73	20,25			
Management of Technology							
	Female	43	63,28	13,96	98	,393	,695
	Male	57	62,27	11,61			
Technological Development							
	Female	43	94,82	11,14	98	1,348	,181
	Male	57	90,31	19,66			

The results of the analysis showed that female administrators had higher scores in SAACT and its subscales (see Table 4). However, an independent t-test results indicated that gender did not make significant difference in administrators' attitudes towards using technology considering the whole scale [$t_{(98)}$ = 1,903; p>.05]. However, the analysis manifested that female administrators showed more positive attitudes towards using technology in administration than did the male administrators in subscales. Female administrators use technology in school administration more than the male ones [$t_{(98)}$ = 2,9463; p<.05]. One of the most striking results emerged from the data is that male administrators

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expressed more fear in using technology in their school management than male administrators.

A one-way between-group analysis of variance was conducted to explore the impact of length of seniority on administrators' attitudes towards using technology in school administration (see Table 5).

Table 5: Comparison of School administrators' attitudes toward using computer technology in terms of seniority

	seniority	*N*	*Mean*	*SD*	*Df*	*F*	*p*
The whole scale							
	0-5 yrs.	9	85,69	6,88	3	9,734	,001*
	6-10 yrs.	56	79,89	6,66	96		
	11-15 yrs.	11	75,95	10,86	99		
	Over 16 yrs.	24	70,40	11,60			
	Total	100	77,70	9,66			
Use of Technology							
	0-5 yrs.	9	87,31	16,18	3	5,742	,001*
	6-10 yrs.	56	89,84	12,21	96		
	11-15 yrs.	11	81,73	16,26	99		
	Over 16 yrs.	24	74,28	21,54			
	Total	100	84,99	16,77			
Interest of Technology							
	0-5 yrs.	9	96,80	12,45	3	4,190	,008*
	6-10 yrs.	56	90,83	17,41	96		
	11-15 yrs.	11	84,00	17,76	99		
	Over 16 yrs.	24	77,18	21,00			
	Total	100	87,34	18,88			
Technophobia							
	0-5 yrs.	9	69,06	17,85	3	1,146	,335
	6-10 yrs.	56	60,60	17,09	96		
	11-15 yrs.	11	66,00	20,13	99		
	Over 16 yrs.	24	57,52	20,39			
	Total	100	61,22	18,36			
Management of Technology							
	0-5 yrs.	9	74,16	20,56	3	2,903	,039*
	6-10 yrs.	56	61,55	10,64	96		
	11-15 yrs.	11	60,66	10,93	99		
	Over 16 yrs.	24	62,04	12,60			
	Total	100	62,71	12,62			
Technological Development							

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0-5 yrs.	9	101,03	9,55	3	7,327	,001*
6-10 yrs.	56	96,64	10,00	96		
11-15 yrs.	11	87,34	18,97	99		
Over 16 yrs.	24	80,97	23,24			
Total	100	92,25	16,62			

*p<0.05

Administrators were divided into four groups according to their length of service (Group 1: 0-5 yrs.; Group 2: 6-10 yrs.; Group 3: 11-15 yrs. and Group 4: 16 and above). There was a statistically significant difference at the p < .05 level in SAACT scores for the four groups [$F_{(3, 96)}$ = 9,734, p< .05]. Follow up analyses, Tukey HSD test, indicated that the mean score for Group 1 was significantly different from Group 4. Group 2 and 3 did not differ significantly from either Group 1 or 4. This finding indicated that administrators who have less seniority tend to use technology in administration than the other groups. Administrators' scores on SAACT subscales indicated that those who have 5 years or less seniority showed more positive attitudes in technology use, interest of technology, management of technology and technological development.

To explore the impact of administrators' school on their attitudes towards using technology in school administration, one-way between-group analysis of variance was conducted (see Table 6). Administrators were divided into three groups according to their school they are working (Group 1: primary schools; Group 2: secondary schools; Group 3: Vocational-Technical high schools).

Table 6: Comparison of School administrators' attitudes toward using computer technology in terms of school types

	N	*Mean*	*SD*	*Df*	*F*	*p*
The whole scale						
Primary Education	75	77,39	8,92	2	6,354	,003*
General high school	14	72,93	11,55	97		
Vocational-Technical high school	11	85,93	7,39	99		
Total	100	77,70	9,66			
Use of Technology						
Primary Education	75	84,83	16,37	2	1,948	,148
General high school	14	79,67	21,20	97		
Vocational-Technical high school	11	92,84	10,44	99		
Total	100	84,99	16,77			
Interest of Technology						
Primary Education	75	88,59	17,91	2	5,317	,006*
General high school	14	73,86	21,77	97		
Vocational-Technical high school	11	96,00	13,75	99		
Total	100	87,34	18,88			
Technophobia						
Primary Education	75	58,52	17,24	2	4,119	,019*
General high school	14	65,61	18,86	97		
Vocational-Technical high school	11	74,00	20,34	99		

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Total	100	61,22	18,36			
Management of Technology						
Primary Education	75	62,10	10,88	2	,383	,683
General high school	14	63,91	14,22	97		
Vocational-Technical high school	11	65,33	20,61	99		
Total	100	62,71	12,62			
Technological Development						
Primary Education	75	92,89	16,06	2	4,870	,010*
General high school	14	81,70	19,47	97		
Vocational-Technical high school	11	101,33	9,18	99		
Total	100	92,25	16,62			

The results indicated that there was a statistically significant difference in SAACT scores for the three groups [$F_{(2, 97)} = 6,354$, $p < .05$]. Further analyses using the Tukey HSD test indicated that the mean score for Group 3 was significantly different from Group 2 and Group 3. This finding indicated that school types of participants made significant change in their attitudes. The administrators who are working in Vocational-Technical High Schools showed greater scores than the other groups. Administrators' scores on SAACT subscales indicated that those who are working at Vocational-Technical High Schools showed more positive attitudes in technology use, interest of technology, management of technology and technological development.

4. DISCUSSION AND CONCLUSION

As one's behavior on something is effected by his attitudes, it is significant for administrators to have positive attitudes on computer use to have a positive effect on the success of education. In this study administrators' attitudes towards computer use in school administration were examined. The findings of the study have been presented in this part.

The first concern of the study was to determine the level of administrators' attitude towards computer technology in school administration. The results revealed that administrators' attitudes toward computer technology were at medium level for the whole scale. This finding means that the administrators use computer technology neither too often nor seldom. They use it moderately in school administration. This may be attributed to the high availability and accessibility of computers in schools [20] and the necessity of them. In todays' world, computers are indispensable tools and they are necessary to manage many tasks in school administration. So administrations need to have some knowledge and skills to use computers to enable more effective administration in school.

The second concern of the study was to examine administrators' attitudes toward computer technology according to their tasks. When considered the whole scale, the results indicated that the tasks of the administrators as school principal or deputy principal do not affect their attitude toward computer technology. However, when taken into consideration the subscales, it is recognized that DeputyPrincipals' attitudes were more positive than the school principals. This result of the study means that deputy principals show a more positive attitude towards the use of technology. They are more interested than the school principals in using computers in school administration. Young individuals are more competent in using technology in everyday life than the others. In Turkey, deputy principles are mostly younger than the school principals [21]. For this reason, a possible explanation for this result can be that as the deputy principals in Turkey are generally younger than the school principals, they are more interested and talented at using computers. There have been some studies which indicate that there has been a relation between using technology and age [22, 23].

The third concern of the study was to examine administrators' attitudes toward computer technology according to their gender. The results manifested that gender did not make significant difference in administrators' attitudes towards using technology considering the whole scale However, female administrators use technology in school administration more than the males. This result of the study is surprising and has not previously been described by many studies. Most of the studies have revealed that since computers are

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viewed as male domain, males are better computers users [24, 25, and 26]. Although this result differs from some published studies, it is consistent with those of Ray, Sormunen and Harris [27] and Whitely [28]. They state that the attitudes of females toward computers change recently. North and Noyes [29] assert that the reason for this change could be due to the increased use of computer for teaching and learning in schools.

The another concern of the study was to find out whether administrators' attitude toward computer technology change according to their seniority. The results of the study showed that there was a statistically significant difference between groups. The groups which have less seniority tend to use technology in administration than the other groups. Furthermore, they have more positive attitudes in technology use, technological development, interest and management of technology. This finding may be explained by the relation between technology use and age as well. The administrators whose seniority are less are generally younger. As it is mentioned before, younger people are more willing to use computers and they are more talented at it [30]. Also there have been some studies which show that younger people experience less computer anxiety than the older ones [31, 32].

The last concern of the study was to examine administrators' attitude toward computer technology according to the type of school at which they work. The results revealed that school types of participants made a significant difference in their attitudes. Administrators of Vocational- Technical high schools showed more positive attitudes toward computer use than administrators of primary and secondary schools. This result may be explained by the fact that in Vocational-Technical High Schools most of the courses are supported by technology. The teachers are expected to use them effectively. So the attitudes of Vocational- Technical high school administrators may be more as they need to have computer knowledge and skills more than the others.

Although the study presents valuable findings and adds to a growing body of literature, it has several limitations. Firstly, this study was conducted quantitatively. A qualitative research can also be conducted to increase the reliability, validity and the generalizability of the study. As the attitudes of administrators have a crucial effect on their behavior, it is significant to determine their attitudes to increase the quality in school administration. And in-service training of the administrators in computer use can be useful to increase the knowledge and skills of the administrators, and in this way to change their attitudes from negative to positive to enhance the success of education.

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